Electronic TUBES

6BZ6 — 3BZ6

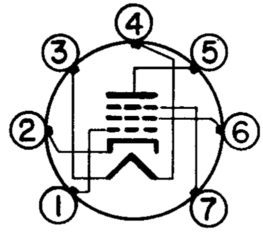
PENTODE

DESCRIPTION AND RATING

The 6BZ6 is a miniature semi-remote-cutoff pentode designed primarily for use as an intermediate-frequency amplifier in television receivers. Its semi-remote-cutoff characteristic makes the tube particularly useful in stages to which it is desired to apply automatic-gain-control. The tube also features a high transconductance and relatively low interelectrode capacitances.

Except for heater ratings, the 3BZ6 is identical to the 6BZ6. In addition the 3BZ6 has a controlled heater warm-up characteristic which makes it especially suited for use in television receivers that employ 600-milliampere, series-connected heaters.

BASING DIAGRAM



RETMA 7CM

GENERAL

ELECTRICAL

	3BZ6	6BZ6
Cathode—Coated Unipotential		
Heater Voltage, AC or DC	3.15	6.3±10% Volts
Heater Current	0.6±6%	0.3 Amperes
Heater Warm-up Time*	11	.. Seconds
Direct Interelectrode Capacitances	With Shield†	Without Shield
Grid-Number 1 to Plate, maximum	0.015	0.025 μμf
Input	7.0	7.0 μμf
Output	3.0	2.0 μμf

MECHANICAL

Mounting Position—Any
Envelope—T-5½, Glass
Base—E7-1, Miniature Button 7-Pin

TERMINAL CONNECTIONS

Pin 1—Grid Number 1
Pin 2—Cathode
Pin 3—Heater
Pin 4—Heater
Pin 5—Plate
Pin 6—Grid Number 2 (Screen)
Pin 7—Internal Shield and Grid Number 3 (Suppressor)

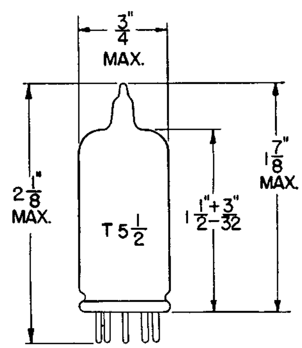
MAXIMUM RATINGS

DESIGN-MAXIMUM VALUES

Plate Voltage	330	Volts
Screen-Supply Voltage	330	Volts
Screen Voltage—See Screen Rating Chart		
Positive DC Grid-Number 1 Voltage	0	Volts
Plate Dissipation	2.3	Watts
Screen Dissipation	0.55	Watts
Heater-Cathode Voltage		
Heater Positive with Respect to Cathode		
DC Component	100	Volts
Total DC and Peak	200	Volts
Heater Negative with Respect to Cathode		
Total DC and Peak	200	Volts

Design-Maximum Ratings are the limiting values expressed with respect to bogie tubes at which satisfactory tube life can be expected to occur for the types of service for which the tube is rated. Therefore, the equipment designer must establish the circuit design so that initially and throughout equipment life no design-maximum value is exceeded with a bogie tube under the worst probable operating conditions with respect to supply-voltage variation, equipment component variation, equipment control adjustment, load variation, and environmental conditions.

PHYSICAL DIMENSIONS



RETMA 5-2

Supersedes ET-T971, dated 10-55

CHARACTERISTICS AND TYPICAL OPERATION

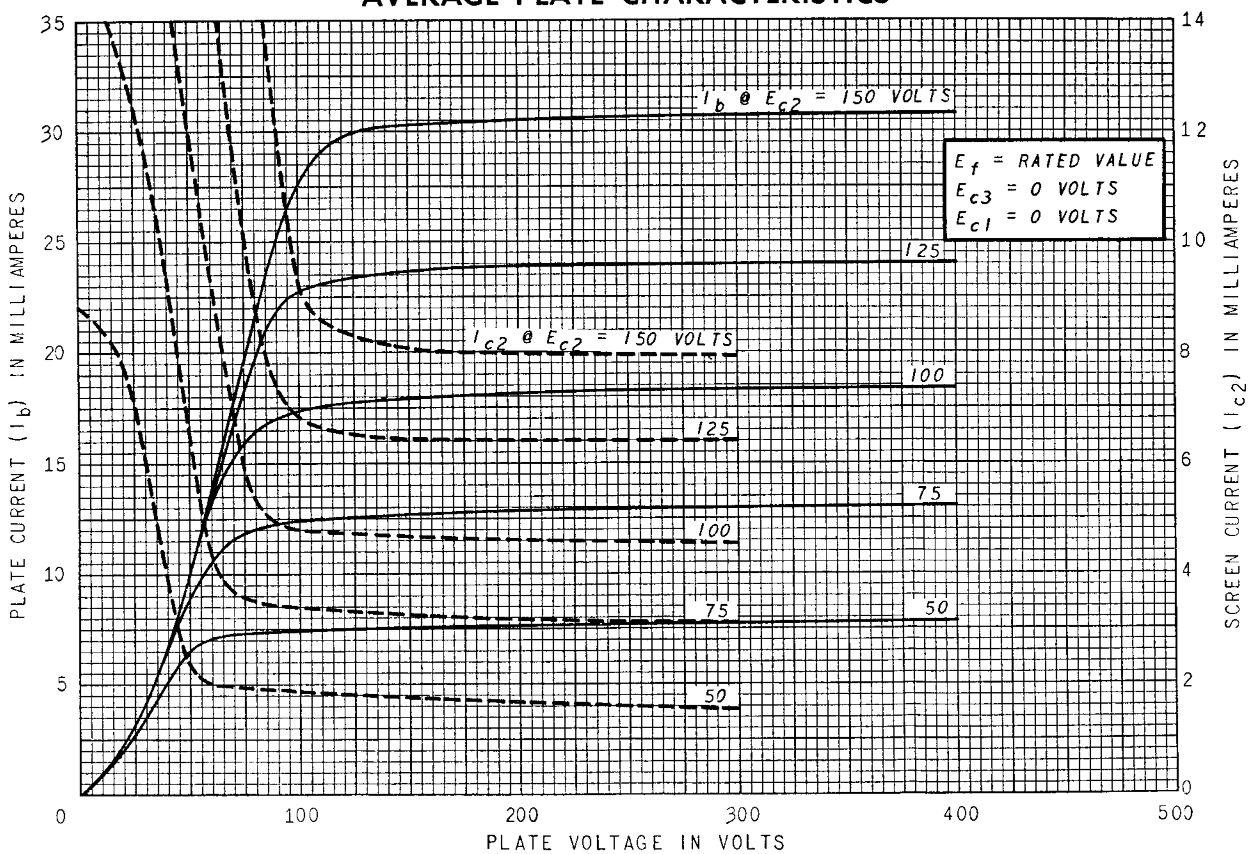
CLASS A_1 AMPLIFIER

Plate Voltage	125	125	Volts
Suppressor, Connected to Cathode at Socket			
Screen Voltage	125	125	Volts
Grid-Number 1 Voltage	−4.5	...	Volts
Cathode-Bias Resistor	...	56	Ohms
Plate Resistance, approximate	...	0.26	Megohms
Transconductance	700	8000	Micromhos
Plate Current	...	14	Milliamperes
Screen Current	...	3.6	Milliamperes
Grid-Number 1 Voltage, approximate Gm = 50 Micromhos		−19	Volts

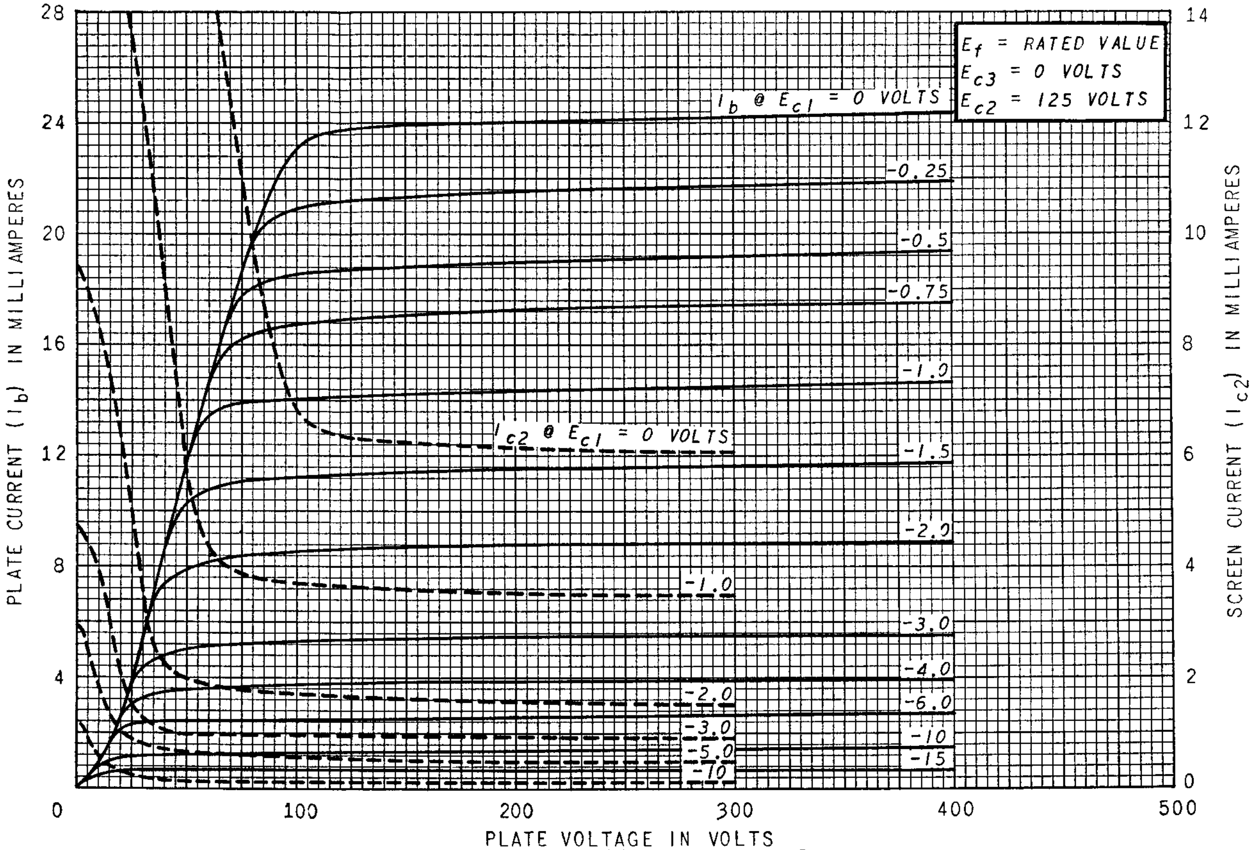
* The time required for the voltage across the heater to reach 80 percent of its rated value after applying 4 times rated heater voltage to a circuit consisting of the tube heater in series with a resistance equal to 3 times the rated heater voltage divided by the rated heater current.

† With external shield (RETMA 316) connected to pin 2.

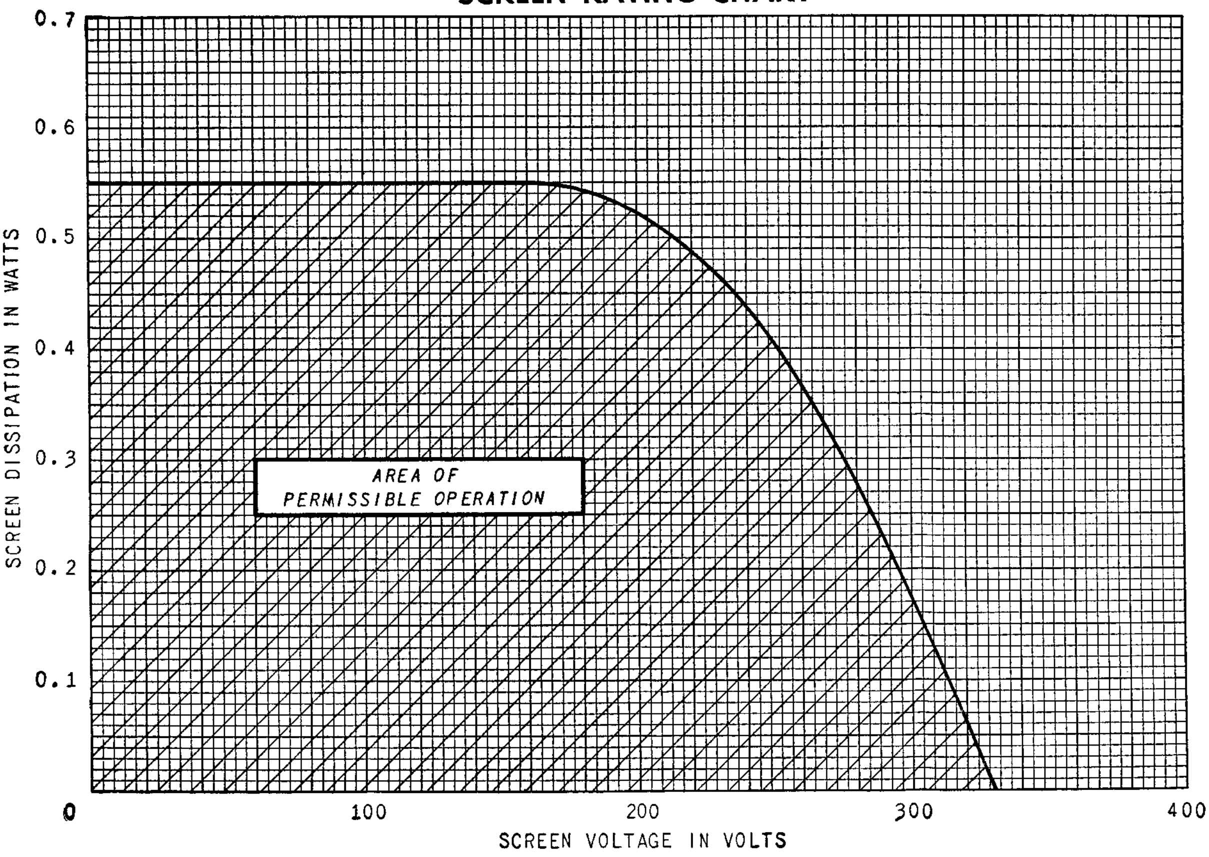
AVERAGE PLATE CHARACTERISTICS



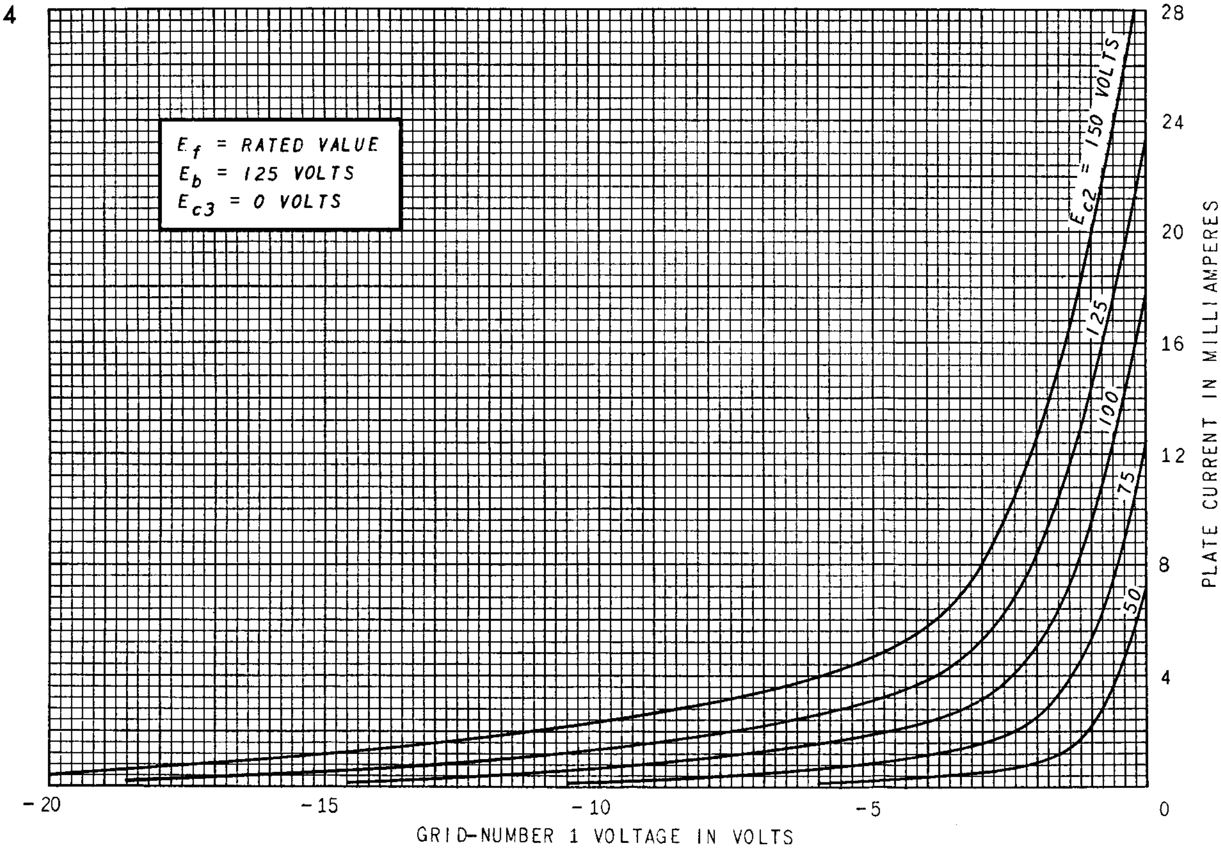
AVERAGE PLATE CHARACTERISTICS



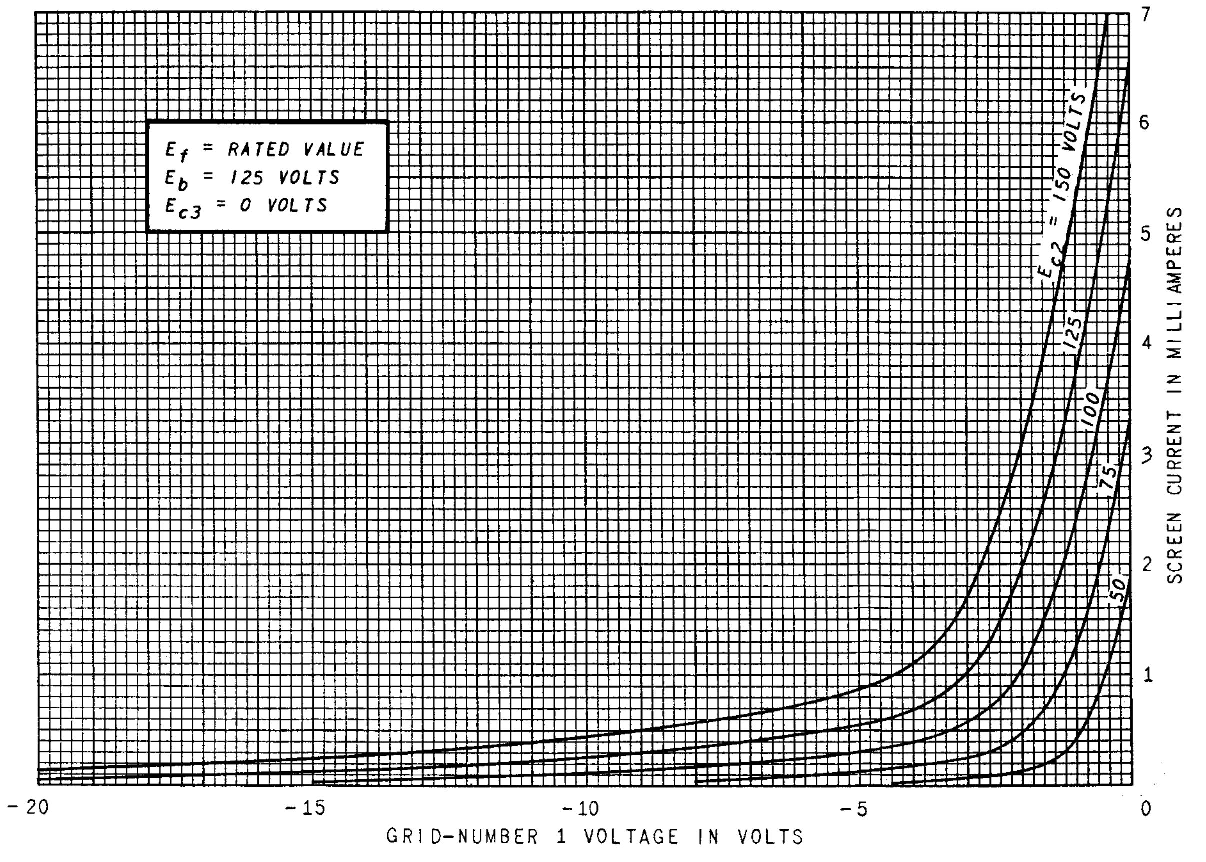
SCREEN RATING CHART



AVERAGE TRANSFER CHARACTERISTICS



AVERAGE TRANSFER CHARACTERISTICS



AVERAGE TRANSFER CHARACTERISTICS

